

The Cary Arboretum



of The New York Botanical Garden

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Cary Perspectives

There is no doubt whatever today that a major determinant of the quality of future civilization will be the wisdom and effectiveness man applies to the management of natural and man-dominated environments. Indisputably central to good management of these resources is high competence in the plant sciences. In recent years the terms "ecology" and "environment" have risen high in the public consciousness, but often for superficial or erroneous reasons. The basic scientific truths supporting botany, ecology, and environmental science are not yet widely understood by the public.

With today's improving intellectual climate, due in part to great advances in communication, and given the means with which to act, the Cary Arboretum has come onto the academic and cultural institution scene as a model which has already attracted wide attention. Substantial challenges, both fundamental and applied, are being squarely addressed. Studies are being done, ranging from the impacts of such human creations as highway networks and hydroelectric generators on forests, agriculture and people in Latin America, to the replanting of streets in Millbrook and other towns in the immediate area. Another research project centers on the functional relationship between

nectaries and pollination devices in a wide range of plants. The wholesale testing of a great array of trees for use here and in comparable areas is under way. We are also studying the processes of wood decay and the development of strains of pollution-resistant trees. The greatest challenges facing us today revolve around the expansion of temperate and tropical agriculture and the management of fields and forests—balancing the need for a greener revolution with the equally important need to maintain biological diversity.

Many botanical gardens and arboreta are in trouble today because they appear to have only vague relevance in an era of monumental social change. The Cary Arboretum, and the New York Botanical Garden of which it is a part, are successful because they are energetically and imaginatively dedicated to directing basic and applied botanical research to the worldwide needs to preserve life on earth and improve the environment of man. A search of the historical record for the beginnings of man's interest in and work with plants reveals a story extending back not only to the earliest days of recorded history but far into those more remote times of fragmentary archeological clues and then on into the mists of the past where conjecture

alone can guide us. Today there is urgency in the plants-and-man relationship, not only to satisfy the practical needs of burgeoning humanity and keep alive hundreds of endangered species, but to educate the public to the reality of man's relationship to the natural world. Trees dominate that natural world over most of the man-dominated earth, and an arboretum, by definition, is an institutional advocate for the preservation and wise use of trees and other woody plants. The trustees of the Mary Flagler Cary Charitable Trust fully understood the potential of an arboretum when they so wisely wrote a broad-visioned charter establishing this organization in 1971.

In human terms, this means that in an era of environmental concern about the limits of growth and the optimum population for society, institutions such as the Cary Arboretum must help integrate botanical resources at the human ecosystem level. This is our text, our mission, our challenge.

Howard S. Irwin,
Director

Groundbreaking Ceremony Set for April 26th

Circle the date Saturday, April 26th on your calendar. On that day, the Arboretum will break ground for its innovative administration and research building to be located on the Sharon Bypass in Millbrook. The ceremonies will take place at 3:00 P.M. at the site where the unique solar heated building will be constructed. The program will include addresses by the N. Y. State Environmental Commissioner Ogden Reid and by Congressman Hamilton Fish, Jr.. The first spade of earth will be turned by trustees of

the Mary Flagler Cary Charitable Trust which established the Cary Arboretum. Displays will include scale models of the building showing its solar collector panels, the use of sod for insulation and the site plan which takes full advantage of the environmental features of the beautiful natural setting.

The building has been designed by Malcolm Wells, a New Jersey architect, specializing in architecture that is "gentle" to the environment. The mechanical systems are

designed by Dubin, Mindell, Bloome of New York, mechanical engineers specializing in solar energy. The building will derive up to 75% of its heat requirements from solar energy. In addition, it will make extensive use of recycling of water and air. More than two dozen environmental features are incorporated in the design.

Friends of the Arboretum will be invited to the ceremonies and the general public will be welcome.



The Gifford House

The Cary Arboretum has recently acquired the Gifford property, located on the Sharon Turnpike adjacent to the Arboretum land. The 108-acre property boasts as its most significant feature a handsome red brick Federalist house, which will serve as an education center for the Arboretum. The cattle barn, to the north of the house, will be a visitors' center and exhibition garden. The purchase also gives the Arboretum protection on both sides of an unique stretch of the Wappingers Creek East Branch which at that point runs through a rocky gorge wooded with virgin hemlock and carpeted with native ferns.

Sally Gifford O'Brien (Mrs. C. William O'Brien), an Arboretum neighbor on the south side of the Sharon Turnpike, knows the Gifford house very well, as her family summered there starting in 1924. Mrs. O'Brien was kind enough to share some of her memories and materials, including sketches she did of the house interior when she was an art student.

The house was built in 1817 by Jonathan Thorne, a farmer, for the sum of \$2,500, excluding carpentry work which cost \$375. After a succession of other owners, Mrs. O'Brien's father, Heman Gifford, Sr., a New York businessman, purchased the house from Reginald Gault in 1924. Mr. Gault, a "gentleman farmer," had used the house as a summer residence and farm, cared for during his frequent absences by Chester White, who farmed the land for Mr. Gault and Mr. Gifford for 50 years. Mr. Gifford raised Holstein and Jersey heifers which were hand-milked by Chester White until his retirement about 10 years ago.

One of the handsomest features of "Brick House Farm" is a shingled addition at the rear built in the early 1900's to add a living room to the house. This elegant room is distinguished by an Elizabethan headboard (about 7' x 9') which forms the mantle-piece over the large fireplace. The outbuildings of Brick House Farm include a handsome stable to the rear of

Sketches of Gifford House rooms by Mrs. C. William O'Brien, a Cary Arboretum neighbor whose family owned the Gifford property. Living room dates from 1817.

Gifford House, several sheds in the orchard behind the cattle barn, and the farmer's house in which Chester White lived. Tentative plans for the education center at Gifford House include holding classes in the former living room, dining room and library, some offices in the bedroom portion upstairs and some dormitory space for visiting students on special programs. Smaller classrooms may be included on the upper floor. Altogether, Brick House Farm will be a most pleasant and attractive addition to the Arboretum, and it is fortunate that both the center for visitors and for education can be housed in these fine, period buildings. Just up the road from the spot where the Arboretum will soon build its solar-heated administration and research building, the land acquisition serves a dual purpose for the Arboretum of rounding out its land boundaries and preserving this beautiful tract from what might have been a less desirable and less environmentally satisfactory use.

Working on the Power Line

Dr. Robert "Gus" Tillman, the Arboretum's Wildlife Management Coordinator, is putting the finishing touches on an unprecedented two-year project in working with the Consolidated Edison Company to help them build a major power line with minimum disturbance to the surrounding environment.

In accordance with Article VII of the New York State Public Service Law, Consolidated Edison of New York sought to prepare and implement a plan for environmental protection and wildlife management along the right-of-way for an overhead 345 Kv transmission line in Orange and Rockland counties. The company selected the Cary Arboretum as its consultant.

This landmark project was started in the first days of the Arboretum in mid-1972. Dr. Robert Dohrenwend supervised the work initially. When he left the staff, Dr. Tillman, who joined in January 1973, took over. The major construction of the 28-mile section

from Rock Tavern, Orange County, to Sloatsburg in Rockland County has now been completed and lacks only restoration work to hide access roads and screen towers. This work will be completed in the Spring. Victor Layton, a student at Dutchess Community College, has been assisting Dr. Tillman on a part-time basis.

Gus Tillman says the project was a first experiment in cooperation between a utility company and an environmental research organization, retained to advise on all aspects of the construction from clearing to site improvement after the line went in. The involvement of the Cary Arboretum included pre-construction planning, selective clearing, slash disposal, wildlife management, consultation on line construction and post-construction restoration. Dr. Tillman spent "about 90% of my time" for 16 months at the construction site. He had originally been told by the construction union that he was not to speak to anyone but the foreman on

the job. Relations between the contractor and Dr. Tillman were initially strained and formal, but a true cooperation was soon achieved when it became apparent that the problems were mutual, and good two-way communication was established with the operating engineers.

A number of previously held beliefs about power line construction were tested and found wanting. Previously, thorough clearing of woody vegetation on power line right-of-way had been standard procedure. It was thought to reduce maintenance costs in the long run. The plan followed on this Con Ed line was selective clearing of trees that would interfere with the line, leaving in place those that would not present that problem. Ground vegetation and small shrubs were left in place as much as possible.

In previous construction felled trees, slash and other debris of construction had been hauled away or burned on the sites. This

project employed a "drop and lop" method in forested areas where tree limbs were removed and felled trees were trimmed to lie flush with the terrain. The tops and limbs were piled or scattered, depending on the density of the undergrowth, to provide food and cover for wild animals. This method proved to be less expensive than the complete disposal previously practiced in such construction.

Erosion control devices such as water bars—a cut across the road that channels water—proved to be not only environmentally sound practice (reducing silt in streams) but also saved costs. Usually a certain amount of "down time"—days when equipment can't function because of washed out roads—is expected on power line construction. The Con Edison job had no down time from this cause. The roads held fast in the spring thaw and heavy rains.

The wildlife management plan, basically designed to enhance the wildlife population along the right-of-way, was devised with public participation of people in the area. Hearings were held, questionnaires distributed and personal contacts made. Dr. Tillman feels that all three processes are necessary to get local input for such a plan. The decisions were made on the basis of inventories of animal population and habitat data along with what was relevant to area residents such as the enhancement of the song bird population. The implementation of the wildlife management plan was inexpensive, involving preserving and aiding the wildlife in residence through ground cover, some food plantings and management of the vegetation to avoid future problems.

The Arboretum's experience with management of vegetation and wildlife under power lines led to a symposium on the subject, organized by the staff ecologist, Dr. Robert Goodland. Dr. Goodland later edited the proceedings of the symposium into book form. The volume, entitled "Power Lines and the Environment," was published last year by the Arboretum. The book, now in a second edition, has been bought by public utility companies, public power authorities, regulatory officials and conservationists in all parts of the United States and many foreign countries. Copies may be ordered through the Cary Arboretum at \$6.00 each.

The story of the project is told in a movie entitled "Power and the Land," produced by Con Ed, which chronicles the role of the Cary Arboretum in the construction of the power line, highlighting the environmental methods used. Dr. Tillman recently showed the movie at a Sierra Club meeting and received 10 invitations to speak elsewhere! The Public Service Commission is pleased with the results, and visitors from other utilities regard the line as being one of the best ever constructed in New York State. Dr. Tillman is presently serving on the planning committee for a national symposium on wildlife management on power line rights-of-way.

Dr. Tillman feels that his experience in the building of this Con Ed power line was very meaningful and important. He'd like to do another line based on the knowledge and experience gained during this literally trailblazing project.

This section of the Con Ed line in Rockland County features a pond which was created during construction, as an aid to the wildlife population. The plantings and brush were retained as shelters for resident animals, a feature of the environmental plan prepared by the Arboretum.



Armand Lovelace, who is finishing his forty-eighth year of employment on the Cary property, gets ready to split some logs for his fireplace.

Profile — Armand Lovelace

Most staff members at the Cary Arboretum never knew the lady who made it all possible—Mrs. Melbert Cary, Jr., whose will created the Mary Flagler Cary Charitable Trust that awarded her Cannoo Hills property to the New York Botanical Garden.

The staff member who knew her best is Armand Lovelace, who has spent his entire working life on Cary land. Now 64 and due to retire by the end of the year after nearly half a century of caring for the Cary estate, Armand Lovelace is a happy man.

"I never wanted to work anywhere else, and I never really had much interest in travelling very far," he says. "When a man could live in Millbrook, why would he want to go away?"

Armand Lovelace was born in 1910 at the old family homestead on Fowler Road where his brother Leland (now 72) lived until the Cary property was awarded to the Arboretum. The early 19th century, white-frame building is now the temporary home of the Education and Wildlife Center.

In Armand's infancy the family lived with Armand's grandparents, who owned the house, but by the time he was six Armand's

father and mother moved their family of eight children to an isolated farmhouse in the nearby hills, now known as the Crear house. The fine old structure, built in the early 1800's, is now being renovated for occupancy by an Arboretum staff member. As Armand recalls it, the land was too poor for successful farming, and his father made a living cutting wood.

This hillside home, however, was too deep in the woods for school-age children; so the Lovelace family moved closer to civilization to a succession of homes in the Millbrook vicinity. After Armand married his wife Kathryn, he returned to the old Lovelace homestead, sharing it with his brother "Lee." About 22 years ago the Armand Lovelaces moved to the gracious home they now occupy at roughly the halfway point of Fowler Road.

Armand remembers clearly how he came to work for Mrs. Cary's family. "I was one of those boys who didn't want to go to school. In those days your dad said to you, 'You either go to school or go to work.' Well, I said, I'm not going to school any more. I was 16 at the time. Dad said, 'Alright, Monday morning we'll go see Ed Hicks; he was the foreman for Mrs. Cary's



father up at Edgewood, their estate in Millbrook. Dad said, 'Hicks wants a boy for the summer. We'll go right up and get you a job. You're not going to come home and sit around.' "

Armand recalls that was in 1926. He stayed at Edgewood two or three years, turned down an opportunity to work for Mrs. Cary's family in New York City, and later was assigned to the Cannoo Hills property. He has never really left it. In the early years, the work was mainly cutting brush and trimming trees. "Mr. Cary wanted the woods so that they could walk anywhere without hitting their heads on branches."

One of Armand's outstanding recollections of Mrs. Cary is her love of trees, which became particularly strong after the untimely death of her husband in 1941. She was particularly fond of the white pine that dominates the view from the Tea-House terrace on top of the highest hill on the property. Armand recalls, "She had that tree trimmed every year, checked for ants and other insects, and she had lightning arresters installed in it. She used to say to me, 'Lovelace' (she always addressed me that way), 'Lovelace, it doesn't make any difference what that tree needs. If I'm in Europe, or wherever I am, take care of it. We cannot lose that tree.' "

Armand is particularly proud that he discovered the special variety of maple which is now called "the Cary maple," and has been patented under that name. "I noticed the tree was very kinky, and had very short limbs, and was very close-growing. So I took her and showed her. She said, 'Oh, Lovelace, let's have the Davey people move it where I can see it. I think we've got something.' I found it not too far from where it is planted. She had it moved to the field where it is now."

Armand and Kathryn, his wife of 42 years, plan to stay on in the Fowler Road house after he retires, continuing to enjoy the rugged Millbrook landscape that he knows so intimately. There will also be more time to spend with their family. Any plans for foreign travel? Hearing the question, Armand just takes another sip of the hot coffee that Kathryn keeps bubbling on the stove all day, looks out at the well-loved hills, and smiles. One has the impression of a man who has roots—and enjoys the feeling. *Cannoo or Canoe Hills? Mary Flagler Cary named her estate, now occupied by the Arboretum, "Cannoo Hills."*

Geographically, however, local maps refer to Canoe Hills, presumably recalling that the Wappinger Indians lumbered the hills for logs to make their dugout canoes.

Millbrook Beautification Project— A Study in Urban Trees

In May of 1973 the Millbrook Beautification Committee was appointed by the Village Board to research and implement programs to make the Village of Millbrook more visually attractive. Dr. Thomas Elias, assistant director of the Cary Arboretum, was asked to serve on that committee along with nine other Millbrook officials and residents. The Cary Arboretum was asked to survey Millbrook and to inventory the existing trees, as well as to make recommendations on suggested removals and plantings. Maps were

prepared under the supervision of the Arboretum staff, showing the location and size of every tree along the streets of the Village and the identity of each tree. In addition a breakdown of the Village's tree population by species was prepared showing that almost three-fifths of the street trees were sugar maples.

During the tree survey and Committee meetings, the members became convinced that the removal of unsightly utility lines along Franklin Avenue (Millbrook's main street) was a necessity. Apart from the visual pollution they caused, the lines would interfere with the growth of any tall trees, making the achievement of a tree-shaded avenue impossible. Central Hudson and the New York Telephone Company were approached. Central Hudson estimated that removal of its lines would cost \$5,000 and offered to pay \$3,000 of this cost. The New York Telephone Company's costs were estimated at \$34,500, and the company announced that it could not absorb any of this cost.

However, in August 1973, one month later, a letter was received from the New York Telephone Company, announcing a revised estimate. The cost for line removal and undergrounding would be only \$16,400. Thanks to the generosity of an anonymous donor, the Beautification Committee was able to supply the necessary funds, and the removal of the maze of wires on Franklin Avenue is now an accomplished fact.

Franklin Avenue is now planted with Shademaster locust trees. Specifications were written by Dr. Thomas Elias of the Arboretum, and Arboretum staff supervised the plantings. The trees were purchased with a fund available from the Mary Flagler Cary Trust, which had been set aside for tree plantings at the time Route 44 was rerouted.

The Arboretum recommendations for trees in Millbrook include encouraging the diversity of the tree stock. Arboretum scientists stress that monopoly of one type of street tree, such as the sugar maple, can set the stage for a crisis by an attacking disease or pest. This sort of disaster will be remembered in the widespread destruction of elms in the United States by the Dutch elm disease some years ago. The study also favored the use of native plant materials, rather than exotics, and the creation of greater interest and better appearance through diversity. An elaborate listing of plantings for all purposes was prepared according to size, soil situations, color, spread, root requirements, creation of windbreaks, hedges, screens, and ability to attract birds. Trees for specific needs, such as the replacement of dying trees or the screening of oil tanks, were listed separately and with estimated costs. Some contributions for these purposes have been received and some plantings already done. Dr. Elias reports excellent cooperation from Village officials during this project and also cites the fine work of the members of the Beautification Committee and its chairman Mrs. Scott Wheaton.

The Beautification Committee hopes to plant more trees during the coming year and to install new waste receptacles and hanging flower baskets on Franklin Avenue. The Committee's next project will be a suggested ordinance to govern overhanging signs and an architectural review of buildings in Millbrook.

Winter and Spring Courses

Everything you always wanted to know about photography, botany, plants, landscaping, sculpture and wildlife is touched on in a series of fourteen winter and spring courses at the Arboretum.

The expanded course series started in late January and continues through the month of May. Courses offered include: WINTER PHOTOGRAPHY, taught by media specialist Douglas DeLay; OIL PAINTING I and OIL PAINTING II, taught by local artist-in-oils Ms. Connie Horton; ANIMAL SKELETON PREPARATION and BONE ART, two new courses given by Ms. Ruth Brunstetter, artist and sculptor; WINTER BOTANY by Dr. Thomas Elias, Assistant Director of the Cary Arboretum; READING THE WINTER LANDSCAPE by Peter Dykeman, Coordinator of the Cary Arboretum Education Program; INTERIOR PLANTSCAPES by Ms. Toby Berg, Millbrook horticulturist; FUNDAMENTALS OF ORGANIZING AND PLANTING YOUR HOME LANDSCAPE, taught by Carlton Lees, landscape designer, lecturer and author, who is vice president of the New York Botanical Garden, and Robert Hebb, staff horticulturist of the Arboretum; BASIC HERB GARDENING by Mrs. Marion Lukens, local herb specialist; OUTDOOR SKETCHING AND WATER COLOR PAINTING, taught by Nicholas Lomangino, noted artist of the Hyde Park School system; SPRING BOTANY and WILD FOODS IN SPRING, two courses by James Stevenson of the Arboretum Education staff; and PLANNING AND PLANTING FOR WILDLIFE by Dr. Robert "Gus" Tillman, Wildlife Manager of the Cary Arboretum.

Course schedules range from six sessions to one-hour walks and talks, and are held during daytimes and evenings. Fees range from \$8 per person for a full course to a maximum of \$40. Special reduced rates for couples attending together are offered for HOME LANDSCAPING and PLANNING AND PLANTING FOR WILDLIFE.

A new informative slide talk series by the staff of the Cary Arboretum will be presented on six Wednesdays starting on April 2 at 7:30 p.m. This series is open to the general public and will focus on environmental and horticultural experiences in Brazil, Central America, Canada, England and Australia. The cost is \$1 per talk or \$5 for the series. These talks will be presented at the Gifford House on the Sharon Turnpike which will be the future education center of the Arboretum.

Single session walks and talks at \$1 per session start in March and continue through June. These sessions cover a wide range of subjects from General Nature Walks to Poisonous Plants Afield and include wild foods, bird walks, wayside plants and animal voices.

Peter Dykeman, Education Coordinator of the Arboretum, organized the curriculum. Course descriptions and registration information may be obtained by calling the Education Center of the Arboretum in Millbrook at 677-5727 or by writing to Coordinator of Education, The Cary Arboretum, Box AB, Millbrook, N.Y. 12545: